

Docket No.: 202443US0

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :

Veronique CHEVALIER, et al. :

EXAMINER: M. WILLIS

SERIAL NO: 09/784,179 :

FILED: FEBRUARY 16, 2001 :

GROUP ART UNIT: 1619

FOR: COMPOSITION BASED ON
N-CHOLESTERYLOXYCARBONYL-
4-PARA-AMINOPHENOL AND
HYDROQUINONE OR ONE OF ITS DERIVATIVES

DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMTSSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

I, Dang Man PHAM, hereby declare:

1. I am employed by L'ORÉAL as an engineer and have experience with skin depigmenting and/or lightening agents.
2. The following observations and experiments were carried out by me or under my direct supervision and control.
3. The depigmentation activity of combinations of compounds was determined using the techniques set forth in Example 1 of the present application. In accordance with the claimed invention, the depigmentation activity of N-cholesteryloxycarbonyl-4-para-aminophenol (6.77×10^{-3}) and hydroquinone (8×10^{-5} M), alone and in combination, was determined. These results are set forth below.

	% inhibition observed	% inhibition theoretical
Hydroquinone (8×10^{-5} M)	25	
N-cholesteryloxy carbonyl-4-para-aminophenol (6.77×10^{-5} M)	No detection	
Hydroquinone (8×10^{-5} M) + N-cholesteryloxy carbonyl-4-para-aminophenol (6.77×10^{-5} M)	31.8	24.4

For purposes of comparison, the depigmentation activity of N-ethyloxycarbonyl-4-paraaminophenol (6.77×10^{-5} M) and hydroquinone (8×10^{-5} M), alone and in combination, was determined. These results are set forth below.

	% inhibition observed	% inhibition theoretical
Hydroquinone (8×10^{-5} M)	26.12	
N-ethyloxycarbonyl-4-para-aminophenol (6.77×10^{-5} M)	13.64	
Hydroquinone (8×10^{-5} M) + N-ethyloxycarbonyl-4-para-aminophenol (6.77×10^{-5} M)	16.48	39.76

Thus, both experiments were performed using the same concentration of hydroquinone compound (8×10^{-5} M) and of aminophenol compound (6.77×10^{-5} M).

4. As shown above, the claimed combination of hydroquinone and N-cholesteryloxy carbonyl-4-para-aminophenol resulted in synergistic inhibition activity (31.8% actual inhibition vs. 24.4% theoretical). In contrast, the combination of hydroquinone and N-ethyloxycarbonyl-4-paraaminophenol did not result in synergistic inhibition activity and, in fact, resulted in less than additive activity (16.48% actual inhibition vs. 39.76% theoretical).

5. Given that the same concentration of aminophenol compound was used in both experiments, the difference in inhibition activity between the claimed hydroquinone/aminophenol combination and the comparative combination was unexpected

and surprising, and demonstrates the improved depigmentating activity of the synergistic combinations of the present invention.

6. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

7. Further deponent sayeth not.

Dang Man PHAM
Name

Dang Man Pham
Signature

April 18th 2003
Date